DOCUMENT RESUME

ED 244 940 SP 024 417

AUTHOR Boutcher, Stephen H.; Crews, Debra J.
TITLE Focus of Attention and Putting Performance.
PUB DATE 84
NOTE 10p.; Paper presented at the Annual Convention of the American Alliance for Health, Physical Education, Recreation and Dance (Anaheim, CA, March 29-April 2, 1984).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Attention Control; *Behavior Modification; *Cognitive Restructuring; Eye Hand Coordination; *Golf; Positive Reinforcement; *Psychomotor Skills; Sex Differences; Skill Development
IDENTIFIERS *Putting (Golf)

ABSTRACT

The effect of a preshot attentional/behavioral routine on putting performance was investigated. Subjects were randomly assigned to four groups: (1) Male Routine (MR); (2) Female Routine (FR); (3) Male Control (MC); and (4) Female Control (FC). Subjects in the FR and MR groups were given individualized putting routines which focused on specific words and on behavioral actions such as the number of practice swings and glances at the hole. This routine was then rehearsed in structured practice sessions. The program lasted six weeks, and, during this time, the control groups used their own putting techniques in their personal putting conditions. Performance, length of time, and consistency of putt were recorded before and after the six-week program. Results indicated that both MR and FR groups increased their time but decreased their variability on the putting task. In contrast, both control groups decreased their time. The FR group significantly improved performance on the putting task while the other three groups showed a decrement. Results suggest that focusing attention on specific words and thoughts and learning a set of behavioral actions produces more consistent putting with regard to time. In the case of the female experimental group, these routines also improved both task and playing performance. (JD)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED244940

# Focus of Attention and Putting Performance

Stephen H. Boutcher

and

Debra J. Crews

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Debra J. Crews
S.H. Boutcher

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

SP 024 417

## INTRODUCTION

In sports such as golf, shooting and archery effective attentional control would appear to be critical for efficient performance. These sports usually take place in unchanging environments and occur over many hours which provides a stern challenge of athlete's concentrational abilities. What should athletes in discrete closed-skill sports attend to and how should they organize their behavior before executing a skill? The effect of behavioral/attentional strategies (preshot routines) on performance are unknown as little research has been done in this area. However, how athletes concentrate and behave immediately before hitting a ball or shooting an arrow is increasingly becoming recognized as one of the most vital determinants of performance (Nideffer, 1981). The present study was designed around the assumption that the development of a consistent preshot routine will improve putting performance. Thus, by learning a specific routine of actions and cue thoughts attention will be diverted away from negative self-talk, from the actual skill itself, and will provide a way of establishing the appropriate 'set' for each putt.

## METHOD

### SUBJECTS AND DESIGN

Subjects were 6 male and 6 female members of the Arizona State Golf Team. Subjects were randomly assigned to one of 4 groups: (a) Male Routine (MR), (b) Female Routine (FR), (c) Male Control (MC) and, (d) Female Control (FC). Performance was measured before and after a six-week program.

### PROCEDURES

At an initial meeting of both male and female golf teams the experimenter told the group he was conducting a study investigating the effects of cognitive strategies on putting performance. Twelve subjects were able to meet the time commitments of the program and were randomly assigned to one of the four

experimental groups. Subjects in the FR and MR groups were given individualized putting routines which consisted of focusing on specific words and on behavioral actions such as the number of practice swings and glances at the hole. This routine was then rehearsed in structured practice sessions. The program lasted six weeks and during this time the control group used their own putting routine in their personal practice conditions. All subjects completed response forms for every session during the six week period.

TASK

To determine the effect of the program a putting task was administered before and at the end of the six week period. This involved all subjects completing 18 putts on a local golf course. Each subject putted six times from three different distances (4, 12, and 20 feet). The results of missed putts were recorded in inches away from the hole and the number of holed putts was tabulated. The time each subject took from grounding the putter and striking the ball was also recorded.

## RESULTS

MANIPULATION CHECKS

To determine the effectiveness of each program, subjects were asked to answer a set of questions for each practice session. Responses were averaged and descriptive data for all groups are presented in table 1. These checks indicated that subjects were practicing putting four times a week and that both control and experimental groups seemed to think that the sessions were worthwhile to them.

TASK PERFORMANCE

Putts holed, absolute error, length of time on putt and variability of time on each putt were analyzed by a 4 x 2 (putting style and trials) Ancova. Results

indicated - significant main effect for the number of putts holed $F(3, 8) = 6.070$, $P < .05$, with the FR group ($\underline{M} = 7.33$) scoring significantly more putts than the FC group ($\underline{M} = 4.00$). No significant differences were found between the MC ($\underline{M} = 7.00$) and MR ($\underline{M} = 5.33$) groups.

The same analysis was performed on absolute error (inches away from the hole) and revealed a significant main effect $F(3, 8) = 5.388$, $P < .09$ with the FC group ($\underline{M} = 13.81$) exhibiting significantly more absolute error than the FR group ($\underline{M} = 9131$) and MR ($M = 10.86$) groups. No significant effects were found for time and variability although the differences were in the predicted direction (see table 2).

PLAYING PERFORMANCE

Mean putting performance was calculated for the two female groups for rounds up to the start of the program and from halfway into the program to the end of the season. There was a significant main effect for average putting performance $F(1, 4) = 8.74$, $P < .04$, with the FR group ($\underline{M} = 31.20$) significantly lowering their average putting performance compared to the FC group ($\underline{M} = 32.40$) after the 6-week program (see figure 1).

## DISCUSSION

This experiment attempted to examine the effect of a preshot routine on putting performance on a task and during actual play. It was found that the FR group decreased their variability of time on putt, increased the length of time on putt and significantly improved putting performance on a task and during actual play. In contrast, both control groups decreased the length of time spent on each putt and did not show an improvement on the putting task. Although the MR increased their time and consistency while putting they did not show an improvement on the putting task.

It is apparent then that the female golfers benefited mostly from the consistency and control that may have been achieved through learning a preshot routine. Although all groups contained golfers of well above average ability it should be pointed out that generally the males were superior on both task and average tournament putting performance. It may be the case that the effectiveness of learning a preshot routine will vary with golfing ability.

It is suggested that these routines will tend to improve performance in closed skill sports, such as golf, by influencing the way golfers think and behave in three major ways:

1. Golfers consistently complain of the problem of negative self-talk brought about by play in stressful situations. A preshot routine which trains athletes to use well-learned positive cues would appear to reduce the likelihood of this type of negative feedback.
2. By learning words and phrases that describe a swing in a holistic, global way it would appear that the routine may prevent golfers from focusing on specific parts of the skill, such as the hand-action, which may prevent smooth, coordinated performance.
3. These routines may provide a way of continuously achieving the appropriate 'set' for the performance of skills which take place over many hours and in many different pressure situations.

Table 1

Manipulation Check Questions

| Questions | Mean |
|---|---|
| **Control Group** | |
| Was this particular putting practice worthwhile to you? (1) Not at all (10) Very much so | 7.39 |
| **Routine Group** | |
| Was this particular putting practice worthwhile to you? (1) Not at all (10) Very much so | 7.87 |
| How many putts did you hole in this practice session? (maximum = 12) | 8.32 |

Table 2

Means and Standard Deviations for Time On Putt,

Mean Putts holed on task, Absolute Error in inches from hole,

Putting Performance before and after intervention

| | Pretest | | | | | Posttest | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time | SD | Putts | AE | Aver | Time | SD | Putts | AE | Aver |
| FEMALE ROUTINE | 4.18 | 1.13 | 5.66 | 9.11 | 33.80 | 6.41 | .81 | 7.33 | 7.60 | 31.20 |
| MALE ROUTINE | 5.11 | 1.44 | 8.66 | 5.68 | - | 6.81 | .83 | 5.33 | 10.36 | - |
| FEMALE CONTROL | 5.72 | 1.55 | 5.00 | 10.12 | 32.06 | 5.17 | 1.17 | 4.00 | 13.81 | 32.40 |
| MALE CONTROL | 4.91 | 1.08 | 8.66 | 4.95 | - | 4.49 | .97 | 7.00 | 9.31 | - |

FIGURE 1

PUTTING PERFORMANCE OVER SEASON